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Robert Peccia &
Associates
Final report for
the Judith Basin
County small
prospects,
abandoned mine

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FINAL REPORT
for the
JUDITH BASIN COUNTY SMALL PROSPECTS ABANDONED MINE RECLAMATION PROJECT

Mont. A/E 88-46-112

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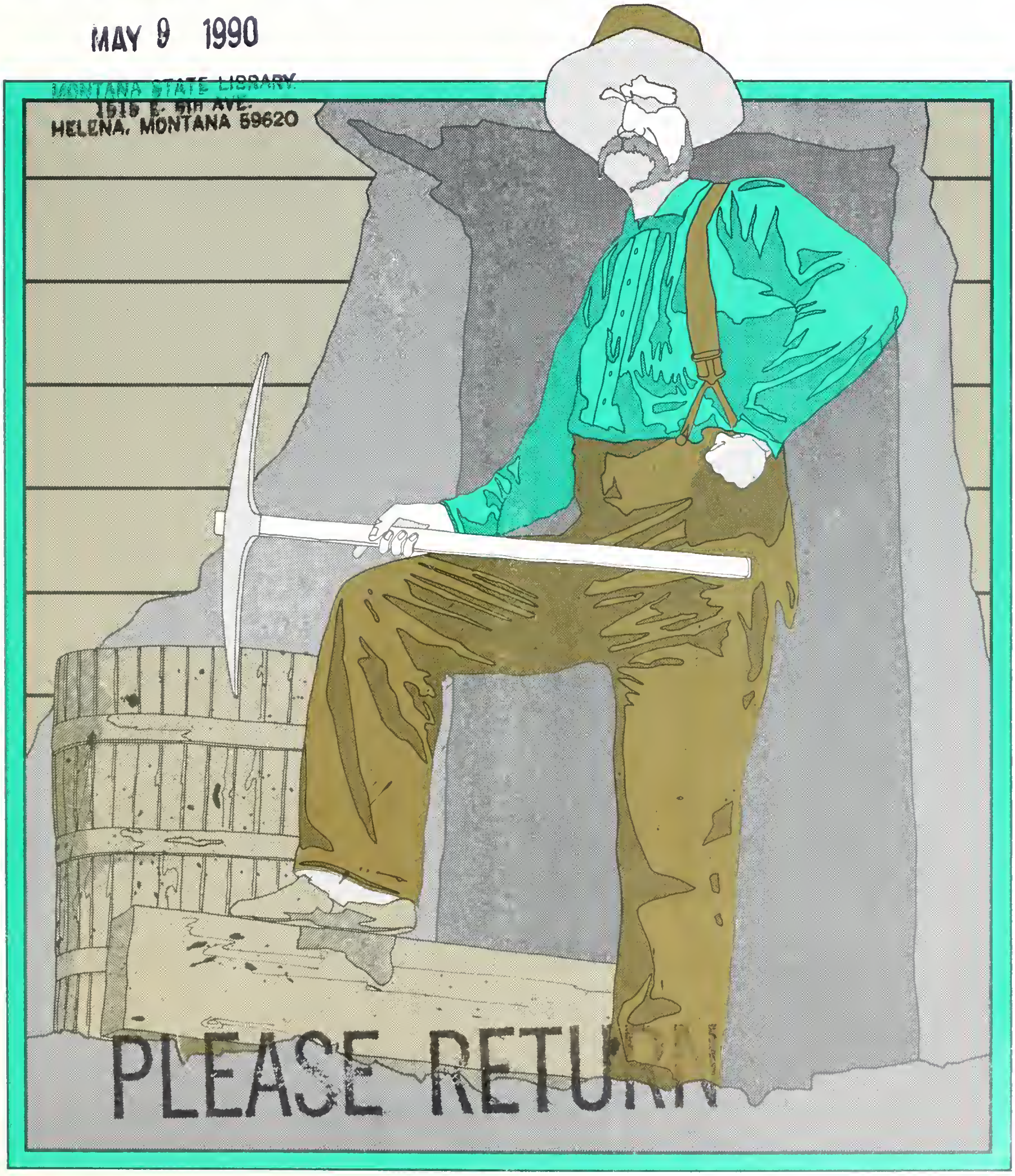

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Final Report
for the
JUDITH BASIN COUNTY
SMALL PROSPECTS
ABANDONED MINE RECLAMATION PROJECT

Mont. A/E 88-46-112

January, 1990

Prepared by

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JUDITH BASIN COUNTY SMALL PROSPECTS

ABANDONED MINE RECLAMATION PROJECT

I. INTRODUCTION

The construction phase to reclaim the abandoned coal mine sites in Judith Basin County began on Thursday, October 6, 1988 and a winter shutdown was granted Friday, November 18,1988. Work resumed May, 10, 1989 and the project was substantially complete May 28,1989. Due to contractor/subcontractor payment problems, the final payment request was not processed until December 22,1989. A Billings firm, Stevens and Feller Construction Company performed the work under contract with the Department of State Lands, Abandoned Mine Reclamation Bureau, MONT A/E 88-46-112. Robert Peccia & Associates provided quality control inspection services for all of the work executed under MONT A/E 88-46-112.

Robert Peccia & Associates prepared the reclamation plan and construction specifications from extensive field study. The reclamation plan was developed in accordance with the objectives established in Montana's Permanent Program Strip and Underground Mine Reclamation Rules and Regulations, specifically A.R.M 26.4.1235(3). The primary criteria used for preparing the reclamation plans were the protection of human life, health and safety, protection of the environment, the improvement of natural resources, and the abatement of adverse impacts of past coal mining activities.

The project is comprised of seven sites located in Judith Basin County near the towns of Raynesford, Stanford, and Buffalo (site maps are shown in Appendix A). Appendix A (original copy only) also contains slides and selected prints of the reclamation sites. Two of the original nine sites (McAllister Mine and McCarty Grade Mines) were dropped from the contract as the landowner decided against construction at this time. Names and legal descriptions of the seven project sites in Judith Basin County, Montana are as follows:

Keith Mine	NE4, Sec.21, T17N, R8E
Noller Mine	NW4, Sec.29, T17N, R9E
Chambers Mine	SW4, Sec.33, T17N, R9E
Miner Mines	SE4, Sec.31, T16N, R12E
Hughes "B" Complex	N2, Sec.19, T15N, R12E
Fisher Mine	SE4, Sec.13, T15N, R11E
Hollenbeck Mine	SW4, Sec.16, T12N, R14E

Coal mining in this region occurred in the late 1800's and early 1900's. Mining targeted coal deposits which occur irregularly in Lower Cretaceous formations that outcrop in predominantly steep-sided, narrow valleys. The common practice of disposing of coal

spoils down gradient from the mine adit without regard to environmental consequences resulted in the problems which the current reclamation is repairing.

Reclamation of abandoned coal mines in Judith Basin County required excavation and disposal of approximately 9,000 cubic yards of spoils material, removal of mine related debris, and closure of numerous adits and shafts. Additional reclamation included lime application to 6.1 acres, fertilizing, seeding and mulching 9.1 acres and construction of 13791.0 lineal feet of fence.

II. DESCRIPTION OF RECLAMATION CONTRACT

A. Bidding Information and Construction Dates

The pre-bid conference held on site August 19, 1988 was not attended by Stevens and Feller Construction. The project contract, MONT A/E 88-46-112, was bid on Thursday, September 1, 1988. Stevens and Feller Construction, P.O. Box 204, Billings, Montana 59103, was awarded the contract on September 7, 1988, for the amount of $58,909.50. The preconstruction conference was held on site September 13, 1988. The notice to proceed was dated September 26, 1988 with the contract period slated for 45 days (completion November 10, 1988).

Reclamation construction began October 6, 1988. A weather shutdown was granted for 3 days, October 27 - 29, 1988. This shutdown coincided with a breakdown and repair of the prime contractors only on site piece of equipment, October 25 to November 1, 1988. In addition to the 3 days of weather shutdown an additional day was granted to the contract period for a permanent culvert installation. The resulting change order increased the contract period to 49 days (completion November 14, 1988). On November 18, 1988 a winter shutdown was granted and on November 21, 1988 a preliminary list of work items remaining was issued.

From November 19,1988 to December 9, 1988 miscellaneous fencing was completed and attempts were made to complete fertilizing, seeding and mulching. These attempts were thwarted by frozen ground conditions. From May 10,1989 to May 12, 1989 and again from May 24,1989 to May 28,1989 most remaining work items were completed. This resulted in a substantial completion date of May 28,1989.

B. Equipment and Methods

The piece of equipment utilized by the prime contractor was a front end loader. From the start up date of October 6 to October 13, 1988 an International Harvester Hough Pay Loader with a 4 cubic yard shovel (heaped full) was used for construction. This leased vehicle was exchanged for a Fiat Allis 7454, 5 cubic yard loader and was

used from October 17 to November 15, 1988. This equipment was used throughout the project for moving soil, spoils, debris, closing mine openings, and spreading lime.

A subcontractor, Barber Excavating, P.O. Box 6420, Star Route, Belt, Montana 59412, performed some work at the Keith, Noller, Chambers, and Miner Mines. The equipment utilized by Barber excavating included; a D5 Caterpillar bulldozer, a JCB III backhoe, a 4x4 Caterpillar 426 backhoe, a 13 cubic yard International Harvester dump truck, and a Case hand operated earth compactor. This equipment was used predominantly on steep or wet areas intermittently from October 10 to November 11, 1988 and the work consisted of moving soil, spoils, debris, closing mine openings, hauling, spreading and incorporating lime (disking), and installation of a permanent culvert.

Clint Stovall of Billings, Montana subcontracted debris removal for the project using a 12 cubic yard International Harvester dump truck and a Stihl chain saw. This dump truck was in operation from October 18, to November 5, 1988 when it "threw a rod" rendering it inoperable. This dump truck and its replacement, another 12 cubic yard International Harvester, were also used to haul lime to various sites. The replacement dump truck was in operation on November 10, 1988.

Gene Ross of Billings, Montana subcontracted earthwork at the Hollenbeck Mine using a D6 Caterpillar bulldozer. This equipment was in operation November 14 and 15, 1988. This equipment was utilized on steep areas to move soil, spoils, close mine openings and spread and incorporate lime (in conjunction with a disk).

Fertilizing, seeding, mulching, and fencing was subcontracted to Chuck Strobbe, Route 2, Box 3195, Red Lodge, Montana 59068. This contractors equipment consisted of a John Deere farm tractor with a three point hitch, an International Farmall tractor with a hay fork front end loader and a three point hitch, a 12-inch and a 9-inch post hole auger, a rear mounted broadcast fertilizer spreader, a 12-foot adjustable disk with 16-inch notched disks, a 12-foot Brillion no-till drill seeder, tamping bars, shovels, hammers, and a Pioneer chain saw. Fertilizer and seed were applied utilizing the above equipment when possible and were hand broadcast where equipment was unable, such as steep and extremely wet areas (broadcast seeding by hand was applied at double the specified rate). All sites were seeded prior to winter shutdown, but due to ineffective mulching all sites but the Keith and Hollenbeck Mines were reseeded and remulched in May, 1989.

Straw mulch was applied by hand utilizing up to 8 laborers on the steep Keith and Hollenbeck Mines and wet Noller and Chambers Mines. Mulch crimping at the Keith and Hollenbeck mines was completed by tracking with dozers. Proper crimping of mulch with the notched disk had not been accomplished at the Noller and Chambers mines by

winter shutdown. Mulching of the Miner, Hughes, and Fisher site was not completed by winter shutdown.

Clayton Kaiser of Geyser, Montana subcontracted mulching through Strobbe. Kaiser's equipment included an Allis Chalmers 7045 tractor, an 8-foot straw crimper and a Finn straw blower. This mulching equipment was used on a trial basis in December, 1988 after winter shutdown and was used as the final method for mulching in May, 1989.

All wood posts were set with Strobbe's mechanical equipment except for three post holes on a steep slope at the Hollenbeck mine were dug by hand. Metal posts were set using a manual post driver.

C. Problems and Considerations

Initial planning problems may have started when the contractor bid the project without visiting the site. The failure of the contractor to start construction at the beginning of the contract period and equipment breakdowns, allowed valuable construction time to pass. The construction schedule was not received until 5 days after the start of construction and was grossly incorrect largely due to the contractors erroneous reading of the construction specifications (thought lime was applied to topsoil). Inadequate communication between the prime contractor, their supervisor and a subcontractor resulted in the subcontractor starting construction at Keith Mine Site with no inspection. The effect of this error was insufficient topsoil salvaged and no pre-construction photographs. The topsoil problem required additional area to be disturbed, and more time and labor required by the contractor.

Adequate supervision by the contractor was not possible as the designated supervisor was also the contractors equipment operator and crew and this caused the supervisor to be remote from his duties. The designated supervisor lacked authority to direct subcontractors actions, ie: could not require subcontractor to mobilize additional equipment to complete a site. These supervision problems resulted in poor coordination and delayed site completion. The Engineer was relied on for extensive contract information and interpretation. The lack of prime contractor equipment necessary for earthwork etc. on site also results in incomplete or delayed site completion. This inability to complete site earthwork caused postponement of final stages of reclamation (fertilizer, seed, mulch, fencing).

A significant problem was that the designated supervisor and the subcontractors (all but one) had not read and did not have copies of the construction specifications. The failure of the prime contractor to properly read the specifications and the inability of the subcontractor to double check prime contractor instructions resulted in the incorrect seed and fertilizer delivered to the

site. The problems of incorrect seed and fertilizer were corrected in the field by adjusting application rates. Because neither the subcontractor nor supervisor had construction specifications, throughout construction the engineer "surprised" the workers with requirements from the specifications. When the engineer did not explain the specifications in detail (i.e. read him the appropriate section), the contractor was prone to making mistakes.

The problems encountered at this project suggest a number of considerations for future similar projects. One is to require or strongly suggest that all parties responsible for construction (supervisor and subcontractors) have and read the portions of the contract documents which pertain to their work. There is also a need for the contractor to supply a supervisor who is dedicated to supervising all aspects of the work and not spending all his time performing the work. In this project there were many small sites distributed over a large area. In this situation the contractor could have foreseen some problems and would have saved time had he completed each site before moving on to the next site.

III. COST SUMMARY

A. Summary of Pay Items

Stevens and Feller Construction was low bidder on the project with a bid of $58,909.50. Five contractors bid on the project, and bids ranged from $58,909.50 to $97,677.50. The engineer's estimated cost was $76,977.50. Bid tabulations are shown in Appendix B-1.

Payment Request No. 1 was processed on January 3, 1989 for a total amount earned to date of $47,922.08. Payment Request No. 2 was processed on October 30, 1989 for a total amount earned to date of $63,721.75. Payment Request No. 3 was processed on December 22, 1989 for the same amount earned to date as Payment Request No. 2 but also relinquished retainages held. This resulted in a final payment to Contractor of $500.30. A copy of each payment request is shown in Appendix B-2.

Due to prolonged nonpayment of a major subcontractor by the general contractor, the semi-final contract payment (Payment Request No. 2) was jointly assigned. This assured payment to Chuck Strobbe for the approximately $15,000.00 worth of seeding and fencing he performed for Stevens and Feller. Prior to joint assignment of this payment check, numerous letters and phone calls by the engineer and Strobbe encouraging payment for lien release purposes resulted in no action, and Strobbe withheld his lien release pending payment.

Change Order No. 1 reflects the installation of a permanent culvert at the Noller mine and deletion of lump sum items of two project sites. Change Order No. 1 resulted in a net increase of the contract amount by $200.00. Change Order No. 2 increased the

contract time by 15 days. Change Order No. 3 adjusts the bid quantities to reflect actual constructed quantities and resulted in a net contract increase of $4,612.25. A copy of each change order is shown in Appendix B-3. Total change order costs of $4,812.25 amounted to 7.6% of the final amount earned by the contractor.

B. Summary of Costs

The unit cost of each item in the project can be viewed in Appendix B-1 under the heading "Stevens and Feller Construction". Taking the final amount earned by the contractor, $63,721.75, and the total acreage reclaimed, 9.5 acres, results in a total cost per acre of $6,707.55.

The estimated quantity for waste pile disposal was 11,000 cubic yards, and the lump sum bid by Stevens and Feller was $11,000.00 resulting in a bid price of $1.00 per cubic yard. It should be noted that no mobilization item was listed on the bid sheets and that mobilization costs were likely "built into" other items of the bid. Taking the final amount earned by the contractor, $63,721.75, and the estimated total yardage of material disposed, 9,000 cy, results in a total cost per cubic yard of $7.08.

To calculate a cost per site, unit prices are multiplied by the agreed-to quantity completed per site. Also the lump sum waste pile disposal item is unit priced at $1.00 per cubic yard. The lump sum debris cleanup item was broken up for each site as follows: Noller $750.00; Hughes $1,000.00; Fisher $750.00; and the remaining 9 sites at $625.00 each. Using the above calculations and accounting for Change Order No. 1, the cost per site follows:

Keith Mine	$ 6,490.82
Noller Mine	12,376.32
Chambers Mine	8,495.82
Miner Mine	13,007.57
Hughes "B" Complex	11,220.07
Fisher Mine	4,724.07
Hollenbeck Mine	7,407.07

Appendix B-4 contains a cost analysis of consultant costs incurred and compares these costs to construction costs. The high construction engineering cost compared to the construction cost can be attributed to the increased time required for the reclamation and the increased effort to close out the project. The high percentage of engineering to construction costs can also be attributed to the small size of the project and the low bid received from the Contractor.

IV. JOB SUMMARY

Reclamation activity on the project proceeded in a disorderly fashion. A description of the work events is complicated by the number of subcontractors (necessitated by the prime contractors lack of appropriate equipment), near continuous equipment shuttling, contractor's insufficient knowledge of contract specifications, lack of an effective contract supervisor, equipment breakdowns and the sites being distributed over a large area.

A wish list of what could have been done better would include requiring contractors to attend the pre-bid meeting, fully understand the contract documents and require supervision from someone other than a full-time equipment operator.

The following briefly describes the work conducted for each site:

Keith Mine

The Keith Mine is situated on a west facing slope of Ridley Coulee, approximately four road miles south of Raynesford, Montana. The site is owned by Frank Skites of Raynesford. Work at this site included excavation and disposal of approximately 1,000 cubic yards of coal spoils into the two on-site adit cuts; closure of one open mine adit; lime application to 0.5 acres; fertilizing, seeding, and mulching 0.9 acres; and installation of 1,697 feet of fence. Additional topsoil for this site was borrowed from a good source area in the bottom of Ridley Coulee approximately 300 feet northwest of the site.

Noller Mine

The Noller Mine is located on the west side of Big Otter Creek approximately five road miles from Highway 87 and approximately 10 miles southeast of Raynesford. This site is owned by Conrad Bodner of Raynesford. Site work consisted of excavation and disposal of approximately 1,000 cubic yards of coal spoils; closure of two open adits and one shaft; debris removal; tipple demolition and stockpiling for landowner; lime application to 0.6 acres; fertilizing, seeding, and mulching 0.8 acres; and installing 2,827 feet of fence. As requested by the landowner, the temporary creek culvert crossing was made permanent and Change Order No. 1, item 1, reflects this change. The primary topsoil borrow area was located east of Big Otter Creek adjacent to the county road. Site reclamation was difficult due to the very wet soil conditions below the adits. Work in the wet areas resulted in some equipment rutting the ground, and the contractor attempted to repair these ruts at least three times. Mine drainage waters (< 1 gpm seeps) were directed to natural wetlands in the vicinity.

Chambers Mine

The Chambers Mine adits are situated along both the east and west sides of Chambers Coulee, approximately eight road miles southwest of Geyser, Montana. The Chambers Mine is owned by Lawrence "Swede" Malmberg of Geyser, Montana. Site work included excavation and disposal of approximately 2,000 cubic yards of coal spoils; closure of one mine adit and one shaft; debris cleanup; lime application to 0.9 acres; fertilizing, seeding, and mulching 1.5 acres; and installing 1,921 feet of fence. At this site two spoils deposition/ topsoil borrow areas were constructed with one on each side of the ephemeral Chambers Coulee drainage. As with other sites, reclamation efforts concentrated on removing as much spoils material as possible from being in contact with water. It is evident that acidic mine drainage water at this site has not been a serious problem considering the thriving trout population in the small pond 150 feet downgradient of the mine.

Miner Mine

The Miner Mine site is situated along both the north and south sides of Skull Creek, approximately four road miles southwest of Stanford, Montana. The site is owned by Larry Carver and Hughes Livestock Company, both of Stanford. Work at this site included excavation and disposal of approximately 3,000 cubic yards of coal spoils; closure of two mine adits; lime application of 1.8 acres; fertilizing, seeding, and mulching 2.6 acres; and 1,924 feet of fence. Three spoils deposition/topsoil borrow areas were developed for this site and were located where there would be minimal contact of spoils with drainage waters.

Hughes "B" Complex

The Hughes "B" Complex consists of two sites and is located along Willow Creek, approximately 600 feet southwest of the Hughes ranch house and approximately six road miles southwest of Stanford, Montana. The site is owned by Hughes Livestock Company, and Harley Hughes, Jr. of Stanford is the contact person. Work at this site included disposal of approximately 1,000 cubic yards of coal spoils, debris removal; closure of two adits and two shafts; lime application to 0.8 acres; fertilizing, seeding, and mulching 1.6 acres; and installing 2,382 feet of fence. Two topsoil borrow/spoils deposition areas were constructed; one in the adit cut at the north site and approximately 1,000 feet southwest of the south site. Manure was used to augment the topsoil placed below the adit at the south site. The two inches of manure not only augmented the four inches of topsoil placed but also helped the landowner use excess manure.

Fisher Mine

The Fisher Mine is located approximately seven road miles southwest of Stanford and one mile west of the Hughes ranch house. The mine is situated on a northwest facing slope between Dunsmore Coulee and Willow Creek. The property is owned by the Hughes Livestock Company. Work consisted of excavating and disposal of approximately 200 cubic yards of coal spoils; closure of one open mine adit; lime application of 0.7 acres; fertilizing, seeding, and mulching 1.0 acres; and installing 1,010 feet of fence. Mine drainage (< 1 gpm seep) was directed to a constructed evaporation/settling pond. Input to the pond was isolated from receiving the flow of other drainages.

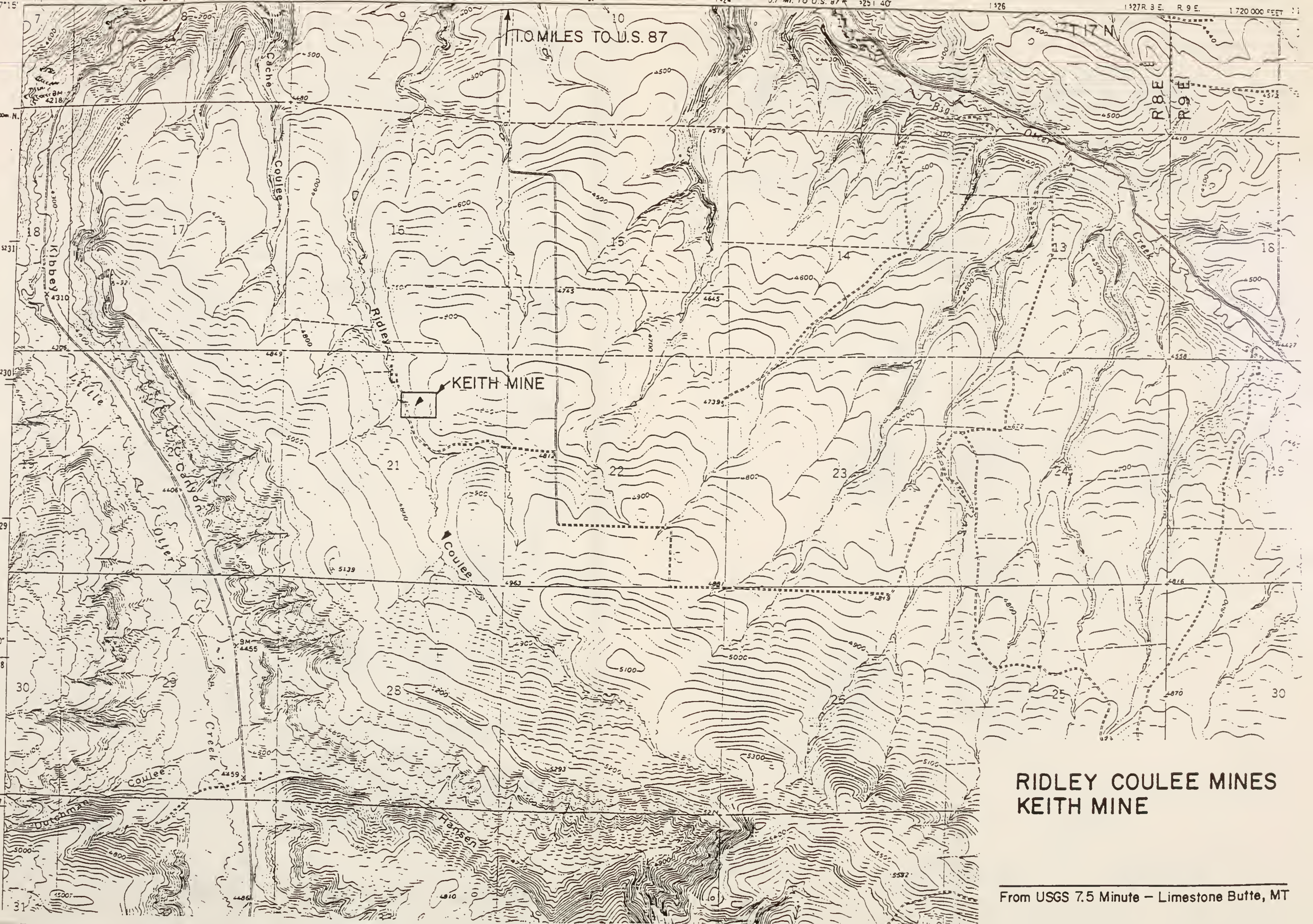
Hollenbeck Mine

The Hollenbeck Mine is located approximately eight road miles west of Buffalo, Montana on Harold McKinley's ranch. Four adits are situated on the west slope of Saager Canyon, and two adits are situated on the east slope. Work included excavation and disposal of approximately 800 cubic yards of coal spoils; closure of two open mine adits; lime application to 0.8 acres; fertilizing, seeding, and mulching of 1.1 acres and installing 2,030 feet of fence. Three small spoils deposition/topsoil borrow areas were constructed below the four adits on the west side. The spoils on the east side of Saager Canyon were largely revegetated so the spoils were left in place, and work here concentrated on recontouring and revegetating the steep-sided adit cuts.

For this project, quantities for lime, fertilizer, seed, and mulch were substantially lower than bid quantities, and quantities for fencing were substantially higher than bid. The lower quantities can be attributed to the field engineer's conscious effort to have the contractor keep the disturbed area at a minimum. The higher fence quantities can be attributed to landowners' wishes to keep as much land was possible in production. This resulted in fence patterns much like a patchwork quilt rather than fencing large blocks which could have been tied to existing fences.

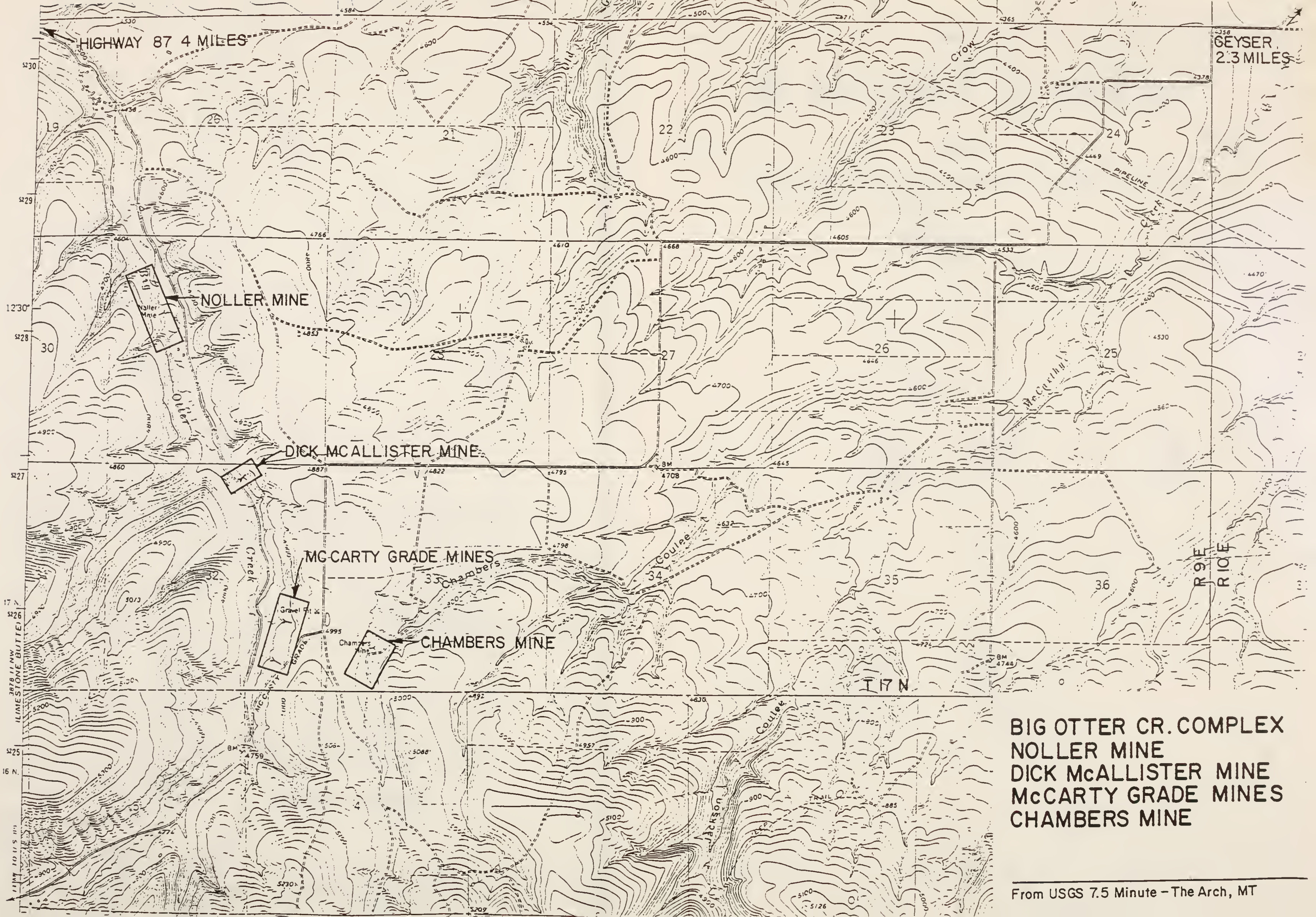
In conclusion, construction of the Judith Basin Small Prospects AMR Project proceeded in somewhat discontinuous fashion due to contractor inefficiencies. Nonetheless, the results of the project can be considered very good as all goals of the project were completed, and vegetation has established itself very successfully.

APPENDIX A
SITE LOCATION MAPS



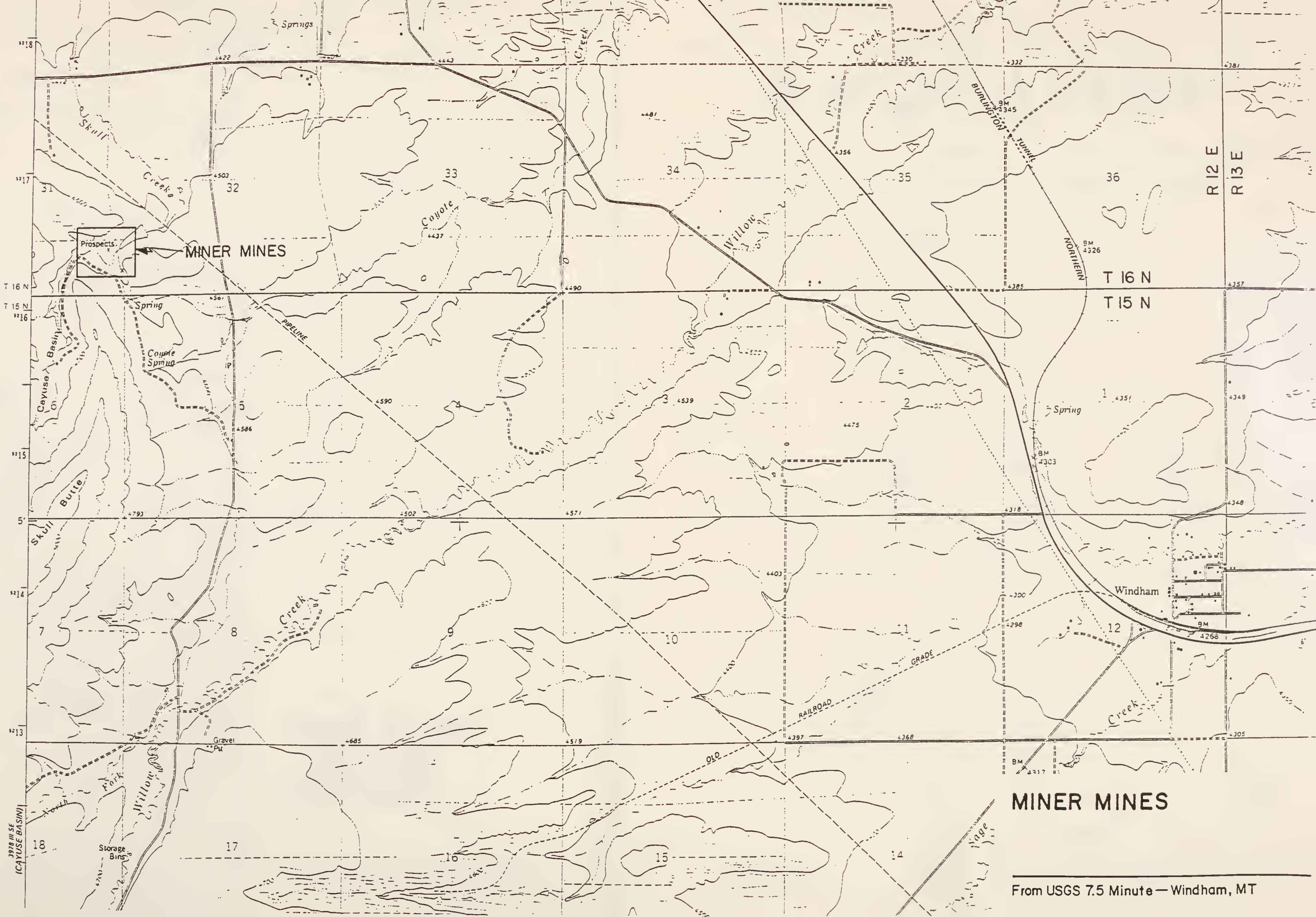
RIDLEY COULEE MINES
KEITH MINE

From USGS 7.5 Minute – Limestone Butte, MT



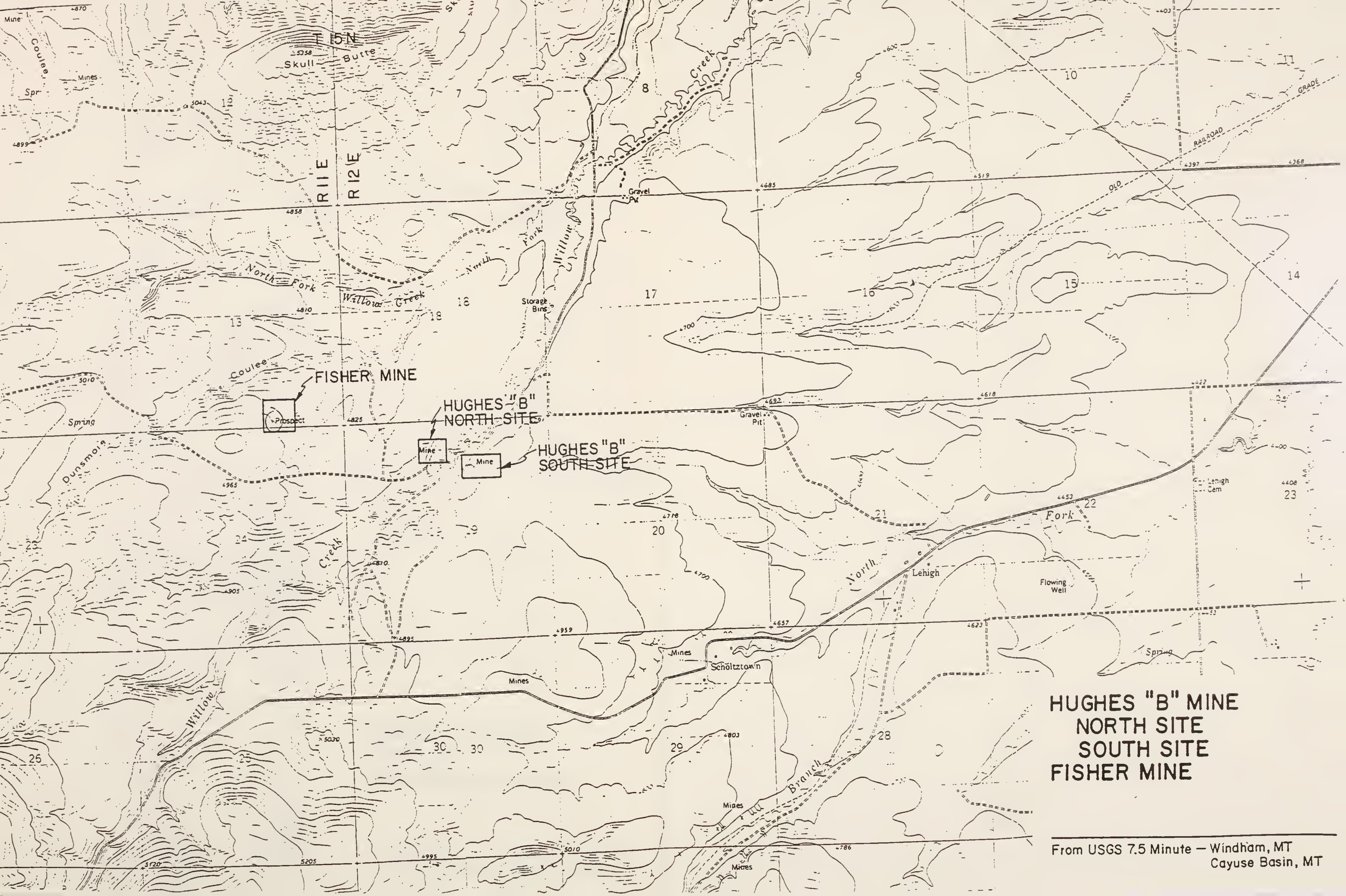
BIG OTTER CR. COMPLEX
NOLLER MINE
DICK McALLISTER MINE
McCARTY GRADE MINES
CHAMBERS MINE

From USGS 7.5 Minute – The Arch, MT



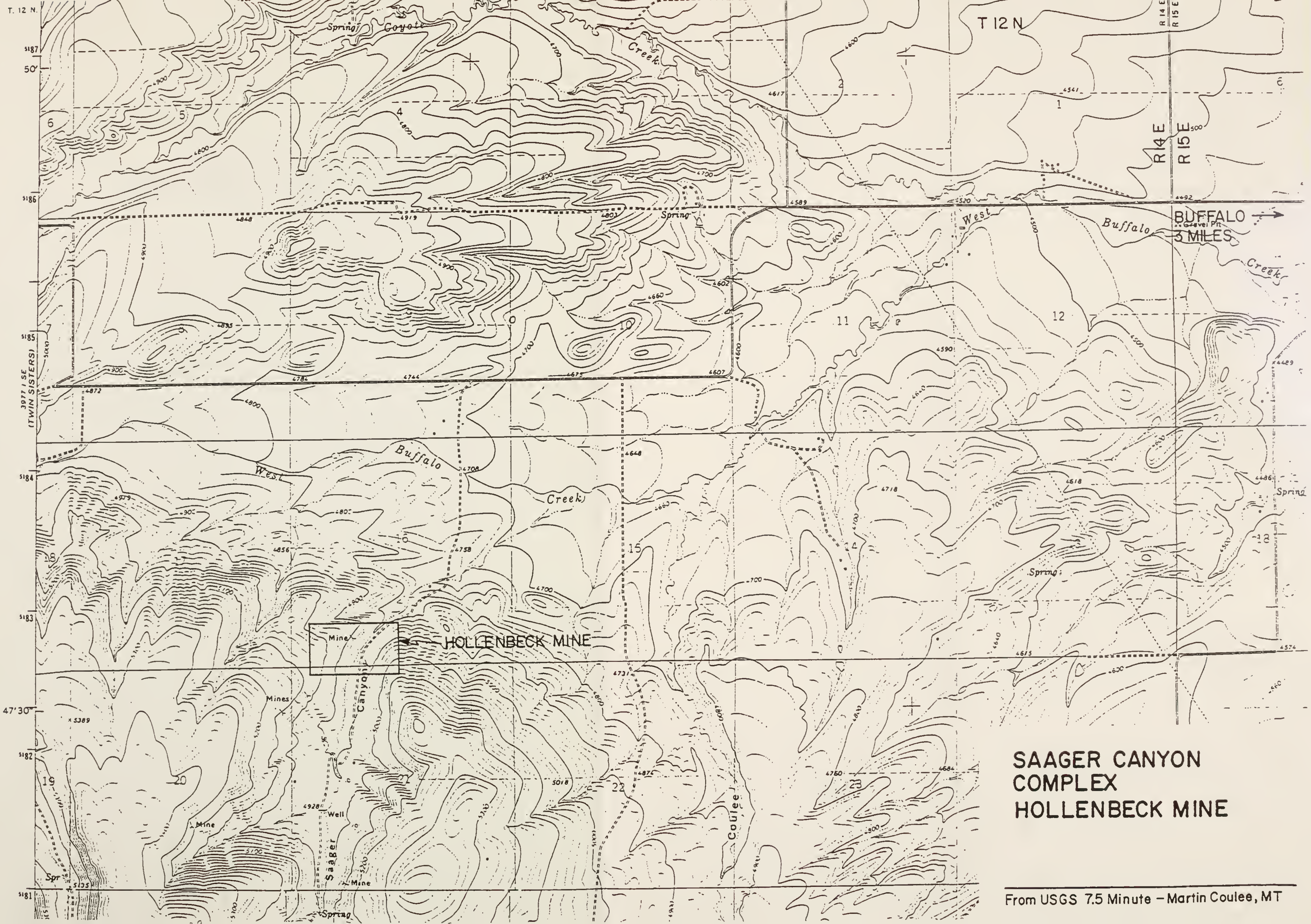
MINER MINES

From USGS 7.5 Minute — Windham, MT



HUGHES "B" MINE
NORTH SITE
SOUTH SITE
FISHER MINE

From USGS 7.5 Minute — Windham, MT
Cayuse Basin, MT



SAAGER CANYON COMPLEX
HOLLENBECK MINE

From USGS 7.5 Minute – Martin Coulee, MT

APPENDIX B
COST INFORMATION

APPENDIX B-1
BID TABULATIONS

BID TABULATIONS FOR
JUDITH BASIN COUNTY SMALL PROSPECTS ABANDONED MINE RECLAMATION PROJECT
ABANDONED MINE RECLAMATION BUREAU

BID DATE: SEPTEMBER 1, 1988

				STEVENS & FELLER CONST. P.O. BOX 204 BILLINGS, MT 59103 MONT. LIC. #6224A		BARBER EXCAVATING 6078 HIGHWAY 69 BELT, MT 59412 MONT. LIC. #6570A		SHUMAKER T & E P.O. BOX 1442 GREAT FALLS, MT 59403 MONT. LIC. #5199A		MONTGOMERY CONST. BOX 755 HILGER, MT 59451 MONT. LIC. #6290A	
ITEM NO.	DESCRIPTION	UNIT	QUANT	UNIT PRICE	TOTAL	UNIT PRICE	TOTAL	UNIT PRICE	TOTAL	UNIT PRICE	TOTAL
1.	Debris Cleanup	1.0	LS	XXXX	$5,000.00	XXXX	$4,210.00	XXXX	$5,000.00	XXXX	$5,000.00
2.	Waste Pile Disposal	1.0	LS	XXXX	$11,000.00	XXXX	$28,858.00	XXXX	$24,000.00	XXXX	$12,000.00
3.	Close Mine Openings-Adit	13.0	EA	$250.00	$3,250.00	$200.00	$2,600.00	$490.00	$6,370.00	$300.00	$3,900.00
4.	Close Mine Openings-Shafts	2.0	EA	$400.00	$800.00	$300.00	$600.00	$490.00	$980.00	$500.00	$1,000.00
5.	Lime Application @ 20 Tons per Acre	9.5	AC	$800.00	$7,600.00	$900.00	$8,550.00	$950.00	$9,025.00	$1,400.00	$13,300.00
6.	Fertilize and Seed	14.5	AC	$800.00	$11,600.00	$225.10	$3,263.95	$750.00	$10,875.00	$2,000.00	$29,000.00
7.	Mulch	14.5	LB	$250.00	$3,625.00	$150.00	$2,175.00	$750.00	$10,875.00	$300.00	$4,350.00
8.	Remove and Reset Fence	500.0	LF	$2.50	$1,250.00	$0.80	$400.00	$1.00	$500.00	$2.00	$1,000.00
9.	Farm Fence (Type F-4)	8,650.0	LF	$1.25	$10,812.50	$0.80	$6,920.00	$0.80	$6,920.00	$1.25	$10,812.50
10.	Farm Fence Gate (16′)	14.0	EA	$48.00	$672.00	$45.00	$630.00	$48.00	$672.00	$200.00	$2,800.00
11.	Fence Double Panel	10.0	EA	$125.00	$1,250.00	$65.00	$650.00	$85.00	$850.00	$200.00	$2,000.00
12.	Fence Single Panel	22.0	EA	$75.00	$1,650.00	$45.00	$990.00	$65.00	$1,430.00	$100.00	$2,200.00
13.	Fence Terminal Post	8.0	EA	$50.00	$400.00	$10.00	$80.00	$35.00	$280.00	$10.00	$80.00
					$58,909.50		$59,926.95		$77,777.00		$87,442.50

BID TABULATIONS FOR
JUDITH BASIN COUNTY SMALL PROSPECTS ABANDONED MINE RECLAMATION PROJECT
ABANDONED MINE RECLAMATION BUREAU

BID DATE: SEPTEMBER 1, 1988

				WOLF POINT READY MIX P.O. BOX 936 WOLF POINT, MT 59201 MONT. LIC. #3972A		ENGINEER'S ESTIMATE	
ITEM NO.	DESCRIPTION	UNIT	QUANT	UNIT PRICE	TOTAL	UNIT PRICE	TOTAL
1.	Debris Cleanup	1.0	LS	XXXX	$6,500.00	XXXX	$1,000.00
2.	Waste Pile Disposal	1.0	LS	XXXX	$40,150.00	XXXX	$33,000.00
3.	Close Mine Openings-Adit	13.0	EA	$400.00	$5,200.00	$400.00	$5,200.00
4.	Close Mine Openings-Shafts	2.0	EA	$200.00	$400.00	$400.00	$800.00
5.	Lime Application @ 20 Tons per Acre	9.5	AC	$1,200.00	$11,400.00	$800.00	$7,600.00
6.	Fertilize and Seed	14.5	AC	$250.00	$3,625.00	$600.00	$8,700.00
7.	Mulch	14.5	LB	$800.00	$11,600.00	$400.00	$5,800.00
8.	Remove and Reset Fence	500.0	LF	$2.00	$1,000.00	$1.65	$825.00
9.	Farm Fence (Type F-4)	8,650.0	LF	$1.25	$10,812.50	$1.25	$10,812.50
10.	Farm Fence Gate (16')	14.0	EA	$90.00	$1,260.00	$70.00	$980.00
11.	Fence Double Panel	10.0	EA	$200.00	$2,000.00	$100.00	$1,000.00
12.	Fence Single Panel	22.0	EA	$115.00	$2,530.00	$50.00	$1,100.00
13.	Fence Terminal Post	8.0	EA	$150.00	$1,200.00	$20.00	$160.00
					$97,677.50		$76,977.50

APPENDIX B-2
PAYMENT REQUESTS

PAYMENT REQUEST NO. 1

FROM: September 26, 1988 TO: December 9, 1988

PROJECT NAME: Judith Basin County Small Prospects PROJECT NO.: MONT A/E 88-46-112
LOCATION: Judith Basin County, Montana

CONTRACTOR: Stevens and Feller Construction ADDRESS: P.O. BOX 204
Billings, MT 59103

SUMMARY OF PROJECT STATUS

TOTAL CONTRACT AMOUNT (excluding C.O. 1)	$58,909.50
(including C.O. 1)	$59,109.50
Contract Time Used to Date (in days)	58
Percentage of Contract Time Used (58/46 days)	126.1%
Percentage of Contract Amount Earned	~~84.1%~~ 81.1% ABM

Total Contract Amount Completed	$53,246.75
Amount for Materials on Site	$0.00
TOTAL TO DATE	$53,246.75
x 90% = Total Amount Earned to Date	$47,922.08
Less Previous Amount Earned	$0.00
Amount Payable This Period	$47,922.08
Less 1% Gross Recipts Tax	$479.22
TOTAL DUE CONTRACTOR THIS PERIOD	$47,442.86

Requested By: [illegible] Date: [illegible]
Contractor

Checked By: Robert T. B. Morton, ROBERT PECCIA + Assoc. Date: 12/28/88
Engineer

Approved By: Susan McNally, AMRB-DSL Date: 1/3/89
Owner

PAYMENT REQUEST NO. 1

PROJECT NAME: Judith Basin Small Prospects AMR Project PROJECT NO: MONT A/E 88-46-112

ITEM NO.	DESCRIPTION	EST. QUANTITY	UNIT BID PRICE	UNITS OF WORK COMPLETED THIS REQUEST	UNITS OF WORK COMPLETED TO DATE	TOTAL COST OF COMPLETED WORK	% OF ESTIMATED QUANTITY COMPLETE
1.	Debris Cleanup	1.0 LS	$5,000.00	0.9	0.9	$4,500.00	90.0%
2.	Waste Pile Disposal	1.0 LS	$11,000.00	1.0	1.0	$11,000.00	100.0%
3.	Close Mine Openings-Adit	13.0 EA	$250.00	11.0	11.0	$2,750.00	84.6%
4.	Close mine Openings-Shaft	2.0 EA	$400.00	3.0	3.0	$1,200.00	150.0%
5.	Lime Application @ 20 Tons per Acre	9.5 AC	$800.00	6.1	6.1	$4,880.00	64.2%
6.	Fertilize and Seed	14.5 AC	$800.00	0.0	0.0	$0.00	0.0%
7.	Mulch	14.5 AC	$250.00	0.0	0.0	$0.00	0.0%
8.	Remove and Reset Fence	500.0 LF	$2.50	294.0	294.0	$735.00	58.8%
9.	Farm Fence (Type F-4)	8,650.0 LF	$1.25	13,791.0	13,791.0	$17,238.75	159.4%
10.	Farm Fence Gate (16-ft.)	14.0 EA	$48.00	16.0	16.0	$768.00	114.3%
11.	Fence Double Pannel	10 EA	$125.00	65.0	65.0	$8,125.00	650.0%
12.	Fence Single Pannel	22 EA	$75.00	22.0	22.0	$1,650.00	100.0%
13.	Fence Terminal Post	8 EA	$50.00	4.0	4.0	$200.00	50.0%
	Subtotal					$53,046.75	
	Change Order Items Not Included Above:						
	Change Order No. 1, Item 1	1.0 LS	$2,000.00	1.0	1.0	$2,000.00	100.0%
	Change Order No. 1, Item 2	1.0 LS	($1,800.00)	1.0	1.0	($1,800.00)	100.0%
	Subtotal Change Order Items					$200.00	
	TOTAL					$53,246.75	

PAYMENT REQUEST NO. 2

FROM: December 10, 1988 TO: June 1, 1989

PROJECT NAME: Judith Basin County Small Prospects PROJECT NO.: MONT A/E 88-46-112
LOCATION: Judith Basin County, Montana

CONTRACTOR: Stevens and Feller Construction ADDRESS: P.O. BOX 204
Billings, MT 59103

SUMMARY OF PROJECT STATUS

TOTAL CONTRACT AMOUNT (excluding C.O. 1)		$58,909.50
(including C.O. 1)		$59,109.50
Contract Time Used to Date (in days)		All
Percentage of Contract Time Used		100.0%
Percentage of Contract Amount Earned		100.0%
Total Contract Amount Completed		$63,721.75
Amount for Materials on Site		$0.00
TOTAL TO DATE		$63,721.75
x 100% = Total Amount Earned to Date		$63,721.75
Less Previous Amount Earned	47,922.05	$47,442.86
Less Retainage		$505.35
Amount Payable This Period	15,294.35	$15,773.54
Less 1% Gross Recipts Tax	152.94	$157.74
TOTAL DUE CONTRACTOR THIS PERIOD	15,141.35	$15,615.80

11/4/89 SM

Requested By: ____________________ Date: 10/5/89
Contractor

Checked By: ____________________ Date: 10-3-89
Engineer

Approved By: Larry Marshall Date: 10/30/89
Owner

008904

PAYMENT REQUEST NO. 3

PROJECT NAME: Judith Basin Small Prospects AMR Project PROJECT NO: MONT A/E 88-46-112

ITEM NO.	DESCRIPTION	EST. QUANTITY	UNIT BID PRICE	UNITS OF WORK COMPLETED THIS REQUEST	UNITS OF WORK COMPLETED TO DATE	TOTAL COST OF COMPLETED WORK	% OF ESTIMATED QUANTITY COMPLETE
1.	Debris Cleanup	1.0 LS	$5,000.00	0.0	1.0	$5,000.00	100.0%
2.	Waste Pile Disposal	1.0 LS	$11,000.00	1.0	1.0	$11,000.00	100.0%
3.	Close Mine Openings-Adit	13.0 EA	$250.00	0.0	11.0	$2,750.00	84.6%
4.	Close mine Openings-Shaft	2.0 EA	$400.00	3.0	3.0	$1,200.00	150.0%
5.	Lime Application @ 20 Tons per Acre	9.5 AC	$800.00	0.0	6.1	$4,880.00	64.2%
6.	Fertilize and Seed	14.5 AC	$800.00	9.5	9.5	$7,600.00	65.5%
7.	Mulch	14.5 AC	$250.00	9.5	9.5	$2,375.00	65.5%
8.	Remove and Reset Fence	500.0 LF	$2.50	0.0	294.0	$735.00	58.8%
9.	Farm Fence (Type F-4)	8,650.0 LF	$1.25	0.0	13,791.0	$17,238.75	159.4%
10.	Farm Fence Gate (16-ft.)	14.0 EA	$48.00	0.0	16.0	$768.00	114.3%
11.	Fence Double Pannel	10 EA	$125.00	0.0	65.0	$8,125.00	650.0%
12.	Fence Single Pannel	22 EA	$75.00	0.0	22.0	$1,650.00	100.0%
13.	Fence Terminal Post	8 EA	$50.00	0.0	4.0	$200.00	50.0%
	Subtotal					$63,521.75	
	Change Order Items Not Included Above:						
	Change Order No. 1, Item 1	1.0 LS	$2,000.00	1.0	1.0	$2,000.00	100.0%
	Change Order No. 1, Item 2	1.0 LS	($1,800.00)	1.0	1.0	($1,800.00)	100.0%
	Subtotal Change Order Items					$200.00	
	TOTAL					$63,721.75	

Peccia

PAYMENT REQUEST NO. 3

FROM: June 2, 1989 TO: November 15, 1989

PROJECT NAME: Judith Basin County Small Prospects PROJECT NO.: MONT A/E 88-46-112
LOCATION: Judith Basin County, Montana

CONTRACTOR: Stevens and Feller Construction ADDRESS: P.O. BOX 204
Billings, MT 59103

SUMMARY OF PROJECT STATUS

TOTAL CONTRACT AMOUNT (excluding C.O. 1)	$58,909.50
(including C.O. 1)	$59,109.50
Contract Time Used to Date (in days)	All
Percentage of Contract Time Used	100.0%
Percentage of Contract Amount Earned	100.0%

Total Contract Amount Completed	$63,721.75
Amount for Materials on Site	$0.00
TOTAL TO DATE	$63,721.75
x 100% = Total Amount Earned to Date	$63,721.75
Less Previous Amount Earned	$63,216.40
Less Retainage	$0.00
Amount Payable This Period	$505.35
Less 1% Gross Recipts Tax	$5.05
TOTAL DUE CONTRACTOR THIS PERIOD	$500.30

Requested By: ______________________ Date: 12/8/89
Contractor

Checked By: Robert B Morton Date: 12/19/89
Engineer

Approved By: sm Larry Marshall Date: 12/22/89
Owner

PAYMENT REQUEST NO. 3

PROJECT NAME: Judith Basin Small Prospects AMR Project PROJECT NO: MONT A/E 88-46-112

ITEM NO.	DESCRIPTION	EST. QUANTITY	UNIT BID PRICE	UNITS OF WORK COMPLETED THIS REQUEST	UNITS OF WORK COMPLETED TO DATE	TOTAL COST OF COMPLETED WORK	% OF ESTIMATED QUANTITY COMPLETE
1.	Debris Cleanup	1.0 LS	$5,000.00	0.0	1.0	$5,000.00	100.0%
2.	Waste Pile Disposal	1.0 LS	$11,000.00	1.0	1.0	$11,000.00	100.0%
3.	Close Mine Openings-Adit	13.0 EA	$250.00	0.0	11.0	$2,750.00	84.6%
4.	Close mine Openings-Shaft	2.0 EA	$400.00	3.0	3.0	$1,200.00	150.0%
5.	Lime Application @ 20 Tons per Acre	9.5 AC	$800.00	0.0	6.1	$4,880.00	64.2%
6.	Fertilize and Seed	14.5 AC	$800.00	9.5	9.5	$7,600.00	65.5%
7.	Mulch	14.5 AC	$250.00	9.5	9.5	$2,375.00	65.5%
8.	Remove and Reset Fence	500.0 LF	$2.50	0.0	294.0	$735.00	58.8%
9.	Farm Fence (Type F-4)	8,650.0 LF	$1.25	0.0	13,791.0	$17,238.75	159.4%
10.	Farm Fence Gate (16-ft.)	14.0 EA	$48.00	0.0	16.0	$768.00	114.3%
11.	Fence Double Pannel	10 EA	$125.00	0.0	65.0	$8,125.00	650.0%
12.	Fence Single Pannel	22 EA	$75.00	0.0	22.0	$1,650.00	100.0%
13.	Fence Terminal Post	8 EA	$50.00	0.0	4.0	$200.00	50.0%
	Subtotal					$63,521.75	
	Change Order Items Not Included Above:						
	Change Order No. 1, Item 1	1.0 LS	$2,000.00	1.0	1.0	$2,000.00	100.0%
	Change Order No. 1, Item 2	1.0 LS	($1,800.00)	1.0	1.0	($1,800.00)	100.0%
	Subtotal Change Order Items					$200.00	
	TOTAL					$63,721.75	

APPENDIX B-3

CHANGE ORDERS

Okay to pay
12/29/88

SECTION II

2.12 CHANGE ORDER

Order No. 1

Date: 12/15/88

Agreement Date:

NAME OF PROJECT: Judith Basin County Small Prospects

OWNER: Montana Dept. of State Lands, Abandoned Mine Reclamation Bureau

CONTRACTOR: Stevens and Feller Construction

Change Orders must be accompanied by an itemized cost breakdown. You are hereby requested to comply with the following changes from the Contract Documents. (Show separate costs for materials, labor, equipment, and miscellaneous. Show percent where applicable.)

ITEM NO.	DESCRIPTION OF CHANGES - ESTIMATED QUANTITIES & UNITS	COST OF CHANGES					TOTAL COST
		MAT'LS.	LABOR	EQUIP.	MISC.	TOTAL UNIT COST	
1.	Permanent Culvert Installation (Noller Mine) a. 20' of 48" CMP b. 20' of 36" CMP c. 7 cy rip rap d. 11% overhead & profit					$2000.00	$2000.00
2.	Delete 2 sites from Project (McCarty Grade Mine and McAllister Mine)					1800.00	1800.00

TOTAL COST - MAT'LS. LABOR, EQUIPMENT & MISC.	$ 200.00
OVERHEAD & PROFIT @ ____ %	N/A
GRAND TOTAL - THIS CHANGE ORDER	$ 200.00

Original Contract Price	$58,909.50
Current Contract Price Adjusted by Previous Change Order	N/C
Cost this Change Order (+ or -)	+ 200.00
New Contract Price Including this Change Order	$59,109.50

Rev. 4/88

The completion date as set forth in the Contract Documents shall be (un-changed, increased, ~~decreased~~) by 1 calendar days.

The date for completion of all work will be November 11, 1988.

Description and Justification for Change:

1.a. Landowner desire to install permanent culvert in lieu of temporary.

1.b. Landowner desire not to perform reclamation construction at this time.

SURETY CONSENT

The Surety hereby consents to the aforementioned Contract Change Order and agrees that its bond or bonds shall apply and extend to the Contract as thereby modified or amended per this Change Order. The Principal and the Surety further agree that on or after execution of this consent, the penalty of the applicable Performance Bond or Bonds is hereby increased by Two Hundred and no/100-------------dollars ($ 200.00) (one hundred (100) percent of the Change Order amount) and the penalty of the applicable Payment Bond or Bonds is hereby increased by Two Hundred and no/100-----------dollars ($ 200.00) (one hundred (100) percent of the Change Order amount).

COUNTERSIGNED BY MONTANA RESIDENT AGENT

COUNTERSIGNED
MONTANA-HOINESS-LaBAR INC.
By
MONTANA RESIDENT AGENT

SURETY

Transamerica Premier Insurance Company

By: (Seal)
Kip W. Vandeventer Attorney-in-fact

Recommended by: , RPA, Engineer
Robert Peccia & Associates, Inc.

Accepted by: , Contractor
Stevens and Feller Construction

Approved by: Susan McAnally 1/3/89, Owner
Montana Dept. of State Lands, Abandoned Mine Reclamation Bureau

SECTION II

2.12 CHANGE ORDER

Order No. 2

Date: 5/1/89

Agreement Date:

NAME OF PROJECT: Judith Basin Small Prospects Abandoned Mine Reclamation Project

OWNER: Montana Department of State Lands, Abandoned Mine Reclamation Bureau

CONTRACTOR: Stevens and Feller Construction Inc.

Change Orders must be accompanied by an itemized cost breakdown. You are hereby requested to comply with the following changes from the Contract Documents. (Show separate costs for materials, labor, equipment, and miscellaneous. Show percent where applicable.)

ITEM NO.	DESCRIPTION OF CHANGES - ESTIMATED QUANTITIES & UNITS	COST OF CHANGES					TOTAL COST
		MAT'LS.	LABOR	EQUIP.	MISC.	TOTAL UNIT COST	
1.	Increase in Contract Time - 15 days						N/A

TOTAL COST - MAT'LS. LABOR. EQUIPMENT & MISC.

OVERHEAD & PROFIT @ ________%

GRAND TOTAL - THIS CHANGE ORDER N/A

Original Contract Price	$58,909.50
Current Contract Price Adjusted by Previous Change Order	$59,109.50
Cost this Change Order (+ or -)	0
New Contract Price Including this Change Order	$59,109.50

The completion date as set forth in the Contract Documents shall be ~~(un-changed~~, increased, ~~decreased)~~ by 15 calendar days.

The date for completion of all work will be 3 days after end of winter shutdown.

Description and Justification for Change:

1. a. Time extension for additional fencing - 12 days.
   b. Time extension for inclement weather - 3 days.

SURETY CONSENT

The Surety hereby consents to the aforementioned Contract Change Order and agrees that its bond or bonds shall apply and extend to the Contract as thereby modified or amended per this Change Order. The Principal and the Surety further agree that on or after execution of this consent, the penalty of the applicable Performance Bond or Bonds is hereby increased by ______________________ ($__________) (one hundred (100) percent of the Change Order amount) and the penalty of the applicable Payment Bond or Bonds is hereby increased by ______________________ ($______________) (one hundred (100) percent of the Change Order amount).

COUNTERSIGNED BY MONTANA RESIDENT AGENT

SURETY

______________________________ ______________________________

______________________________ By: ______________________________ (Seal)

Recommended by: Robert B. Morton, Engineer
Robert Peccia & Associates, Inc.

Accepted by: ______________________________, Contractor
Stevens and Feller Construction Inc.

Approved by: ______________________________, Owner
Montana Dept. of State Lands, Abandoned Mine Reclamation Bureau

2.12 CHANGE ORDER

Order No. 3

Date: 6/22/89

Agreement Date:

NAME OF PROJECT: Judith Basin County Small Prospects

MONT A/E 88-46-112

OWNER: Mont. Dept. of State Lands, Abandoned Mine Reclamation Bureau

CONTRACTOR: Stevens and Feller Construction, Inc.

Change Orders must be accompanied by an itemized cost breakdown. You are hereby requested to comply with the following changes from the Contract Documents. (Show separate costs for materials, labor, equipment, and miscellaneous. Show percent where applicable.)

ITEM NO.	DESCRIPTION OF CHANGES - ESTIMATED QUANTITIES & UNITS	COST OF CHANGES					TOTAL COST
		MAT'LS.	LABOR	EQUIP.	MISC.	TOTAL UNIT COST	
	See attached.						

TOTAL COST - MAT'LS, LABOR, EQUIPMENT & MISC.	$ 4,612.25
OVERHEAD & PROFIT @ ________ %	N/A
GRAND TOTAL - THIS CHANGE ORDER	$ 4,612.25

Original Contract Price	$58,909.50
Current Contract Price Adjusted by Previous Change Order	$59,109.50
Cost this Change Order (+ or -)	+ 4,612.25
New Contract Price Including this Change Order	$63,721.75

The completion date as set forth in the Contract Documents shall be (unchanged, ~~increased, decreased~~) by 0 calendar days.

The date for completion of all work will be 3 days after end of winter shutdown.

Description and Justification for Change:

1. Items 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, Bid quantity adjustments to reflect actual quantities at contract prices.

SURETY CONSENT

The Surety hereby consents to the aforementioned Contract Change Order and agrees that its bond or bonds shall apply and extend to the Contract as thereby modified or amended per this Change Order. The Principal and the Surety further agree that on or after execution of this consent, the penalty of the applicable Performance Bond or Bonds is hereby increased by Four Thousand Six Hundred Twelve and 50/100--- ($ 4,612.50) (one hundred (100) percent of the Change Order amount) and the penalty of the applicable Payment Bond or Bonds is hereby increased by Four Thousand Six Hundred Twelve and 50/100--- ($ 4,612.50) (one hundred (100) percent of the Change Order amount).

COUNTERSIGNED BY MONTANA
RESIDENT AGENT

BS Insurance Montana, Inc.
~~FBS Insurance Billings~~
Countersigned by:
Kip W. Vandeventer
Montana Resident Agent

SURETY

Transamerica Premier Insurance Company

By: Kip W. Vandeventer
Kip W. Vandeventer (Seal) Attorney-in-fact

Recommended by: Robert B. Morton, Engineer
Robert Peccia & Associates, Inc.

Accepted by: , Contractor
Stevens and Feller Construction, Inc.

Approved by: , Owner
Mont. Dept. of State Lands, Abandoned
Mine Reclamation Bureau

ITEM NO.	DESRIPTION OF CHANGES - ESTIMATED QUANTITIES & UNITS	COST OF CHANGES					TOTAL COST
		MAT'LS.	LABOR	EQUIP.	MISC.	TOTAL UNIT COST	
1.	Decrease in quantity, Bid Item 3 Close Mine Openings - Adit, 2 ea. (Total of 11)					$250.00	($ 500.00)
2.	Increase in quantity, Bid Item 4 Close Mine Openings - Shaft, 1 ea. (Total of 3)					400.00	400.00
3.	Decrease in quantity, Bid Item 5 Lime Application, 3.4 acres (Total of 6.1 acres)					800.00	(2,720.00)
4.	Decrease in quantity, Bid Item 6 Fertilize and Seed, 5 acres (Total of 9.5 acres)					800.00	(4,000.00)
5.	Decrease in quantity, Bid Item 7 Mulch, 5 acres (Total of 9.5 acres)					250.00	(1,250.00)
6.	Decrease in quantity, Bid Item 8 Remove and Reset Fence, 206 lf (Total of 294 lf)					2.50	(515.00)
7.	Increase in quantity, Bid Item 9 Farm Fence, 5141 lf (Total of 13791 lf)					1.25	6,426.25
8.	Increase in quantity, Bid Item 10 Farm Fence Gate, 2 ea. (Total of 16)					48.00	96.00
9.	Increase in quantity, Bid Item 11 Fence Double Panel, 55 ea. (Total of 65)					125.00	6,875.00
10.	Decrease in quantity, Bid Item 12 Fence Terminal Post, 4 ea. (Total of 4)					50.00	(200.00)

APPENDIX B-4

ANALYSIS OF CONSTRUCTION & ENGINEERING COSTS

ANALYSIS OF CONSULTANT COSTS INCURRED
FOR THE MONTANA DEPARTMENT OF STATE LANDS
ABANDONED MINE RECLAMATION BUREAU
AMR PROJECT NUMBER: MONTANA A/E 88-46-112
JUDITH BASIN COUNTY SMALL PROSPECTS AMR PROJECT
RPA PROJECT NUMBERS: 89-30.9, 89-30.11
88-30.9, 88-30.11
DATE OF PREPARATION: JANUARY 26, 1990

ENGINEERING SERVICE	AMOUNT
DESIGN ENGINEERING:	
1989 CONTRACT	$0.00
1988 CONTRACT	$6,874.03
SUBTOTAL DESIGN ENGINEERING COST:	$6,874.03
CONSTRUCTION ENGINEERING AND PROJECT ADMINISTRATION COST:	
1989 CONTRACT	$4,776.38
1988 CONTRACT	$25,142.07
SUBTOTAL CONSTRUCTION ENGINEERING COST:	$29,918.45
PROJECT ENGINEERING COST:	$36,792.48
CONSTRUCTION COST:	$63,721.75

* * *

TO CALCULATE PERCENTAGE ENGINEERING FEES TO CONSTRUCTION COST:

DESIGN ENGINEERING/CONSTRUCTION COST	10.7876%
CONSTRUCTION ENGINEERING/CONSTRUCTION COST	46.9517%
TOTAL ENGINEERING COST/CONSTRUCTION COST	57.7393%

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